REMARKS

INTRODUCTION:

In accordance with the foregoing, claims 1, 2, 3, 8, 10 and 11 have been amended. No claims have been added or cancelled. Claims 1-30 are pending and under consideration. Claims 1, 8, 16 and 25 are independent claims. Reconsideration is respectfully requested.

REJECTIONS UNDER 35 USC 102 & 103:

Claims 1-9 and 25-27 stand rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 6,449,586 to Hoshuyama. Claims 16, 18-20 and 28-30 stand rejected under 35 U.S.C. 103(a) as being obvious over Hoshuyama. Claims 10-15, 17 and 21-24 stand rejected under 35 U.S.C. 103(a) as being obvious over Hoshuyama in view of U.S. Patent No. 6,002,776 to Bhadkamkar et. al. ("Bhadkamkar"). Applicants traverse the rejections and respectfully request reconsideration.

Amended independent claim 1 recites at least the following:

> extracting pure noise components from the M compensated noise-containing speech signals using feedback providing a noise-removed signal to M adaptive blocking filters and M adaptive canceling filters connected in a feedback structure and finally generating the noise-removed signal from the sum signal by providing the pure noise components to the M adaptive canceling filters

Hoshuyama and Bhadkamkar, taken separately or in combination, fail to suggest or disclose at least all the above-recited features of amended independent claim 1.

The Office Action asserts on page 1, item 2, that Hoshuyama illustrates the above-recited features in FIG. 1. Applicants respectfully disagree.

Hoshuyama illustrates at FIG. 1 blocking matrix 2 and multi-input canceller 31. However, the Office Action has failed to demonstrate how FIG. 1 of Hoshuyama is asserted to illustrate blocking matrix 2 and multi-input canceller 31 connected "in a feedback structure." In fact, Hoshuyama fails to even mention the term "feedback." Moreover, the Office Action failed to provide any rationale which supports the assertion that the above-recited features are inherent to the structure illustrated in FIG. 1 of Hoshuyama. If an assertion of inherency is to be relied upon in any future Office Action, Applicants respectfully request the rejection provide a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly

inherent characteristic necessarily flows from the teachings of the applied reference, as required by MPEP 2112 IV.

In fact, Hoshuyama is similar to the conventional adaptive beamformer described, for example, in the *Description of the Related Art* portion of the above-identified application (pars. [0007] to [0013]). Referring to FIG. 1 of Hoshuyama, adaptive filters 5_0 to 5_{m-1} and adaptive filters 7_0 to 7_{m-1} have a feedforward connection structure, in contrast to the above-recited claim language.

Bhadkamkar is directed to an audio signal processing system for processing acoustic waves from a plurality of sources (col. 4, lines 53-54). However, Bhadkamkar fails to compensate for the asserted deficiencies of Hoshuyama. Bhadkamkar describes a crosstalk remover 50 having a feedback network (FIG. 3 and col. 8, lines 63-67). There, M output signals corresponding to M sources are generated from the crosstalk remover 50, and echoes and reverberation of an adjacent source are subsequently removed from each of the M output signals. Consequently, Bhadkamka not only fails to suggest all of the above-recited features, but in fact is so different from Hoshuyama that one skilled in the art would not be motivated to use Bhadkamka in combination with Hoshuyama.

Accordingly, Applicants submit that independent claim 1 patentably distinguishes over Hoshuyama and Bhadkamkar, and should be allowable for at least the above-mentioned reasons. Since similar features recited in independent claim 8, with potentially differing scope and breadth, are not taught or disclosed by the combination of Hoshuyama and Bhadkamkar, the rejection should be withdrawn and claim 8 also allowed.

Further, Applicants respectfully submit that claims 2-7 and 9-15, which variously depend from independent claims 1 and 8, should be allowable for at least the same reasons as claims 1 and 8, as well as for the additional features recited therein.

Independent claim 25 recites at least the following:

> extracting pure speech components from the sum signal using the M adaptive canceling filters that are connected to the M adaptive blocking filters in the feedback structure

Hoshuyama and Bhadkamkar, taken separately or in combination, fail to suggest or disclose at least all the above-recited features of independent claim 25.

The Office Action asserts on page 6 that Hoshuyama illustrates the above-recited features at FIG. 1, item 5. Applicants respectfully disagree.

Hoshuyama illustrates a plurality of adaptive filters, 0 through M, at FIG.1, item 5. However, there is nothing in FIG. 1 of Hoshuyama that illustrates "extracting pure speech components from the sum signal using the M adaptive canceling filters." Moreover, as previously asserted, adaptive filters 5_0 to 5_{m-1} and adaptive filters 7_0 to 7_{m-1} illustrated in FIG. 1 of Hoshuyama have a feedforward connection structure and are thus clearly not connected in a "feedback structure." If the rejection is to be maintained, Applicants respectfully request that the technical reasoning in support of the determination be provided in a non-final Office Action so that Applicants are afforded an opportunity to respond to the determination.

Bhadkamkar fails to compensate for the asserted deficiencies of Hoshuyama, as asserted above.

Accordingly, Applicants submit that independent claim 25 patentably distinguishes over Hoshuyama and Bhadkamkar, and should be allowable for at least the above-mentioned reasons. Since similar features recited in independent claim 16, with potentially differing scope and breadth, are not taught or disclosed by the combination of Hoshuyama and Bhadkamkar, the rejection should be withdrawn and claim 16 also allowed.

Further, Applicants respectfully submit that claims 17-24 and 26-30, which variously depend from independent claims 16 and 25, should be allowable for at least the same reasons as claims 16 and 25, as well as for the additional features recited therein.

Dependent claim 2 recites at least the following:

> subtracting signals output from the M adaptive blocking filters from the M compensated noise-containing speech signals to output M noise signals

Hoshuyama and Bhadkamkar, taken separately or in combination, fail to suggest or disclose at least all the above-recited features of dependent claim 2.

The Office Action asserts on page 2 that Hoshuyama illustrates the above-recited features at FIG. 1, item 20. Applicants respectfully disagree.

Hoshuyama illustrates a plurality of adaptive filters, 0 through M. However, there is nothing in FIG. 1 of Hoshuyama that illustrates or describes the above-recited features. Item 20 of FIG. 1 is merely described as a blocking matrix (col. 10, line 67). In contrast to the above-recited features, Hoshuyama describes adding rather than subtracting output signals. For example, with regard to FIG. 2, Hoshuyama sets forth "the adder 106 calculates a sum of the signals received from the amplitude indicative value calculating circuits 105m to transmit the result of calculation to a multiplier 107 (col. 11, lines 32-35). If the rejection is to be maintained,

Applicants respectfully request that the technical reasoning in support of the determination be provided in a non-final Office Action so that Applicants are afforded an opportunity to respond to the determination.

Bhadkamkar fails to compensate for the asserted deficiencies of Hoshuyama.

Accordingly, Applicants submit that dependent claim 2 patentably distinguishes over Hoshuyama and Bhadkamkar, and should be allowable for at least the above-mentioned reasons.

CONCLUSION:

There being no further outstanding objections or rejections, it is submitted that the application is in condition for allowance. An early action to that effect is courteously solicited.

Finally, if there are any formal matters remaining after this response, the Examiner is requested to telephone the undersigned to attend to these matters.

If there are any additional fees associated with filing of this Amendment, please charge the same to our Deposit Account No. 19-3935.

Respectfully submitted,

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